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29th April 2021

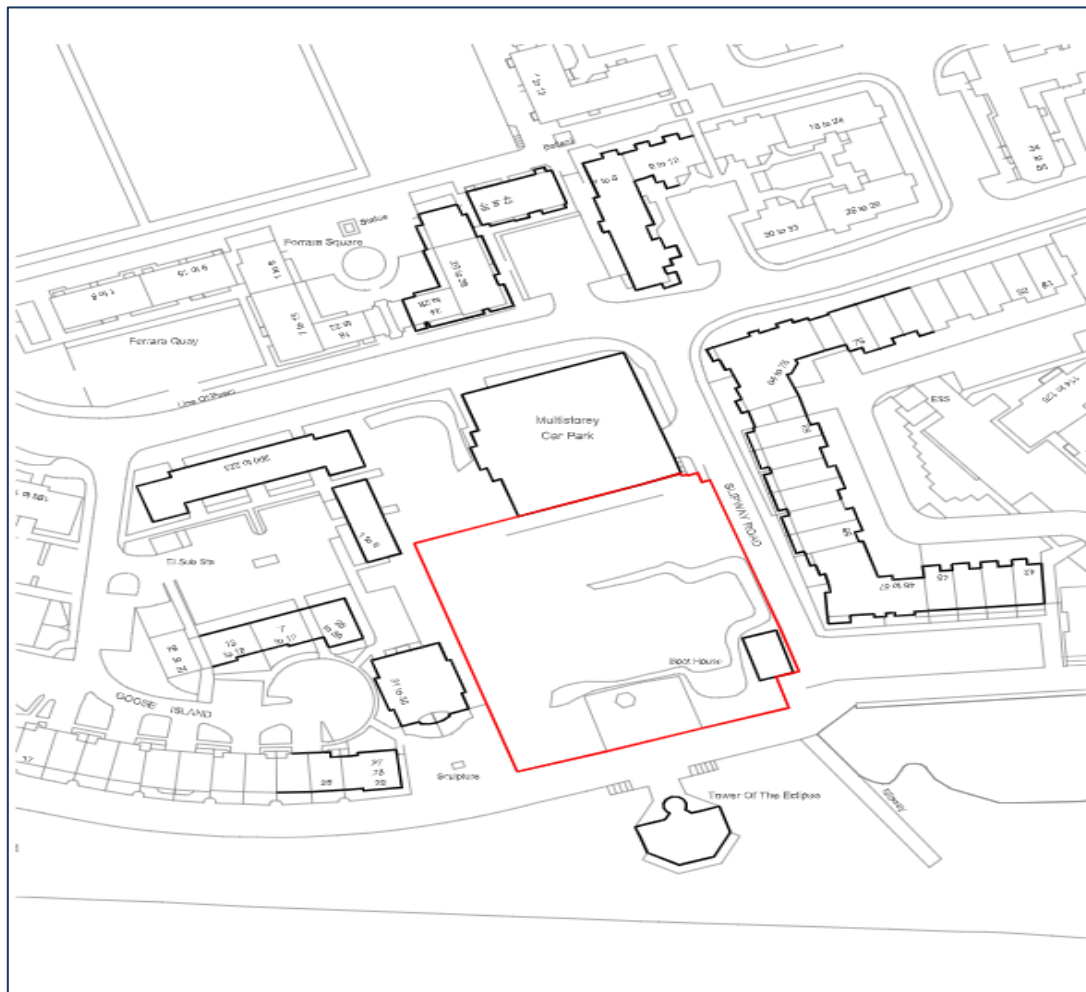
Swansea Council Development Department
Civic Centre
Oystermouth Road
Swansea
SA1 3SN

To The Leader,

Ref: Ysgol Bae Abertawe. Project Number: 5010.

(YsgolB/5010/XX/ZZ/IE/A/2021/YsBEP/S1/A)

I have the pleasure of writing to you in relation to the proposed construction of Ysgol Bae Abertawe at the beach front location confirmed on the following site plan:



This is the Vision Board we have produced for our Project logo. It helps our design team get a feel for the existing site and surrounding area and inspires the team to look for key design features that will enhance the Schools' own design. We have looked at the make-up of the area and hope to incorporate similarities in the design but at the same time we want to introduce new elements to have that 'Wow Factor' that an innovative and aspiring school should have.



As confirmed, this is a jointly funded venture with the assistance of Welsh Government funding and will be built in accordance with the 21st Century School's Programme. As Consultant's we have been asked to outline measures that will be taken to show competency of our project team in reaching BIM level 2.

I would like to reassure you at this point that we have taken steps to ensure a consistent level of competency and collaboration throughout this project. The steps taken now will provide you with all the information you require to understand every stage and to begin to instigate future planning in accordance with BIM Level 2. The documentation shared with you will enable stress free, robust life cycle considerations and maintenance planning.

Our team have been hand-picked for this project; we have our most experienced and industry trained work force fully engaged.

All members of staff have been adequately trained and are BIM certified notably they have all undertaken the BIM Level 2 Essentials and Information Management certified by BRE who are industry training leaders.

These are the learning outcomes from the course:

- Explain to others the value proposition of Information Management using BIM
- Understand the principles of BIM Level 2, which can be applied locally while still being consistent internationally
- Recognise the emerging building SMART International information standard
- Recognise the open data format requirements to comply with COBie
- Understand the production of the Employer's information requirements (EIR)
- Extract standard method procedures (SMPs) from the EIR
- Define a pre and post-appointment BIM Execution Plan (BEP)
- Recognise the considerations when producing information for construction scheduling (4D)
- Adopt these processes within your organisation

Our Lead consultants, including myself are Certified BIM Practitioner's having completed the industry recognised training (BRE Global ISO 19650-2:2018 Information Management Certification for Individuals).

We also have a professional portfolio which can be made available for your consideration if required; this portfolio will provide you with an overall picture of the experience we have within our organisation and within a BIM environment. I feel this will reassure you from the start.

When recruiting staff we have a robust interview and screening process which enables us to assess the qualifications and experience of each individual. This gives us the confidence in knowing we have a comprehensive team of individuals at hand at every stage. This provides an enhanced experience in terms of Project and Information Management to our Clients.

In terms of measuring performance, our Manager's carry out annual appraisals and we set staff Key Performance Indicator's (KPI's) which are mainly focused around achieving targets relating to BIM deadlines, so we can ensure we reach the set targets.

We also operate a 360 degree feedback mechanism which allows colleagues to feedback information about other colleagues **in a constructive manner**. This is imperative in a BIM environment as we are working collaboratively, feeding into one model (The One Truth). All the data has to be clean and it has to coordinate on a blanket scale or it won't work. This feedback is dealt with professionally and used constructively to enhance the success of the team.

At WalkeyTalks' Consultancy we choose to empower our staff rather than micro-manage; the purpose of the KPI's and the 360 degree mechanism is to ensure our information input is clean, that we meet our deadlines and that we maintain our professional standards. We value our staff and trust them to make accurate decisions from the word go. BIM is an excellent collaborative process and we embrace this.

Collaboration is the key word here; this not only applies to the BIM process but to the mechanisms of a high functioning, professional team – we expect excellent results and we provide the support to enable said results.

In terms of competencies in relation to BIM, there are many areas that feed into the Core Competences required for a successful outcome.

As an organisation we base our core BIM standards around the BIM Excellence Competency table. This is how we manage the BIM process; the following table explains how the areas are related to each requirement within BIM Level 2.

Competencies:

Area:	Summary:	In relation to BIM:
Managerial	The decision-making abilities which drive the selection/adoption of long-term strategies and initiatives. Managerial competencies include leadership, strategic planning, and organizational management.	Identifying changes necessary in relation to the organisation and instigation of BIM. Partnership working – networking for future planning and workflow
Administrative Services	Organisational requirement to meet Strategic Objectives – includes tendering, procurement, Contract Management and HR services.	Policies and procedure sin relation to BIM documentation. Forward planning. Cost monitoring. Marketing, Contract Management. Risk assessments and Quality Management
Functional (Project Management)	The non-technical, overall abilities required to initiate, manage and deliver projects. Functional competencies include collaboration, facilitation and project management.	Fundamental requirements such as identifying the use of BIM tools and workflows. Preparing the documentation necessary to enable Model-based Collaboration between Project Participants. Managing projects where BIM Workflows are used and BIM deliverables are specified Managing teams.
Operational	Designing, Simulating and Quantifying. Daily hands-on individual efforts to deliver a project.	Modelling (REVIT), Capturing information. Identifying appropriate software and linking in with other external sources (CoBie etc for life cycle planning)
Technical	Hardware required. Model and document requirements. How is the multi-user environment being	The abilities required to generate Project Deliverables across

	managed?	disciplines and specialties. Technical competencies include modelling, drafting and model management.
Implementation	The activities required to introduce BIM concepts, tools and workflows into an organisation. Implementation competencies include component development, standardization and technical training	Component and library management. Standard templates (for consistency). Technical training, system and process training (collaborative working). Development of guides and manuals.
Supportive element (General)	The abilities needed to maintain information technology and communication systems. Supportive competencies include data and network support, equipment support and software troubleshooting.	Troubleshooting, maintenance and storage of documentation and data. Software and web development,

Source: <https://bimexcellence.org/files/201in-Competency-Table.pdf> date accessed: 13.03.21

BIM Level 2 is defined by collaborative working, feeding into a Common Data Environment (CDE) and information sharing between various software systems and project participants. There are BSI standards associated with this process: **BS EN ISO 19650-1**. These standards outline the following:

'Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling'

Source: BSI Standards Publication. Date Accessed: 13.03.21. UWTSD Library database resource

The ISO document is comprehensive and at times it can be quite confusing so it's important to understand it on a level that explains what it means to a project and at what point it's relevant. I feel this breakdown of the Information Delivery Cycle shows a clear explanation of why the sharing of information is important:

5.1 The information delivery cycle

To successfully implement the ISO 19650 series, the appointing party (for example the client) commences with the statement of need, ensuring the information requirements are clearly defined at the start of the project along with how the concepts and principles of information management are to be implemented and the benefits that are expected. This confirms the types of information and clarifies how different types of information should be structured and exchanged. Management and processes may also be considered at this point and as far as they can be determined by the appointing party. It is helpful for an appointing party to explain principal reasons why information is required, to give additional context to the delivery teams.⁷ These considerations are then carried across, as appropriate, for each appointment that the appointing party initiates across the project.

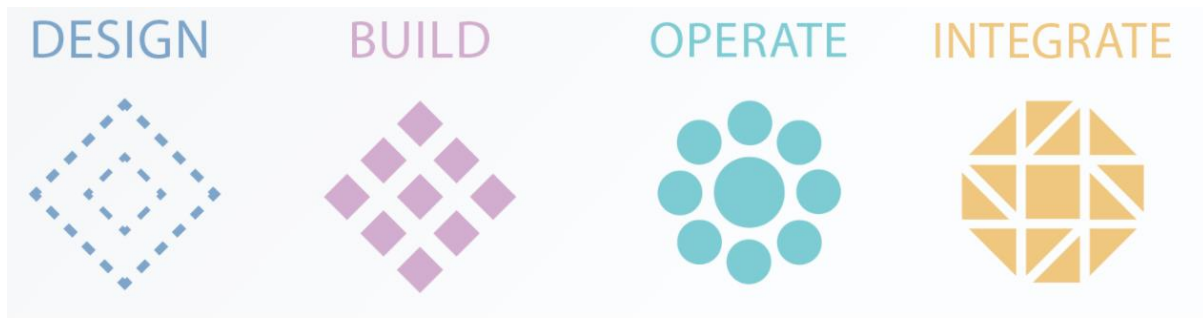
Each prospective lead appointed party (for example: designer, contractor) responds to these information requirements in their (pre-appointment) BIM execution plan which includes their statements of capability and capacity to apply the ISO 19650 series. The appointing party should consider the contents of the BIM Execution Plan when selecting the lead appointed party. Where prequalification is used then this forms the initial stage of the appointment process, ahead of the pre-appointment BIM execution plan (see Annex D relating to PAS 91).

During mobilisation, the appointing party (for example the client), the lead appointed party (for example the contractor) and the appointed party/parties (for example the subcontractors) collaborate to agree key roles and responsibilities and to agree an information delivery plan (in the form of the BIM execution plan, the master information delivery plan and the task information delivery plans) that outlines coordination and delivery mechanisms (see ISO 19650-2 Clauses 5.4 and 5.5). Briefings and training ensure everyone has an agreed level of competency and an understanding about what is required.

These parties then establish the level of information need required at every project stage and approval, authorisation and acceptance procedures. This enables the configuration and implementation of appropriate information management systems. These information systems must provide and consider the needs of people (the project team and stakeholders), the process of information delivery and the selection and use of appropriate technologies required for delivery.

At the end of every project stage (and potentially within a project stage) assurance is provided that the information requirements have been met appropriately (see ISO 19650-1 Clause 6.3.3). It might be possible to do this through a mixture of manual and automated methods. Relevant asset information, assembled during the appointment/project, is handed over at completion to inform operation and maintenance in a timely fashion.

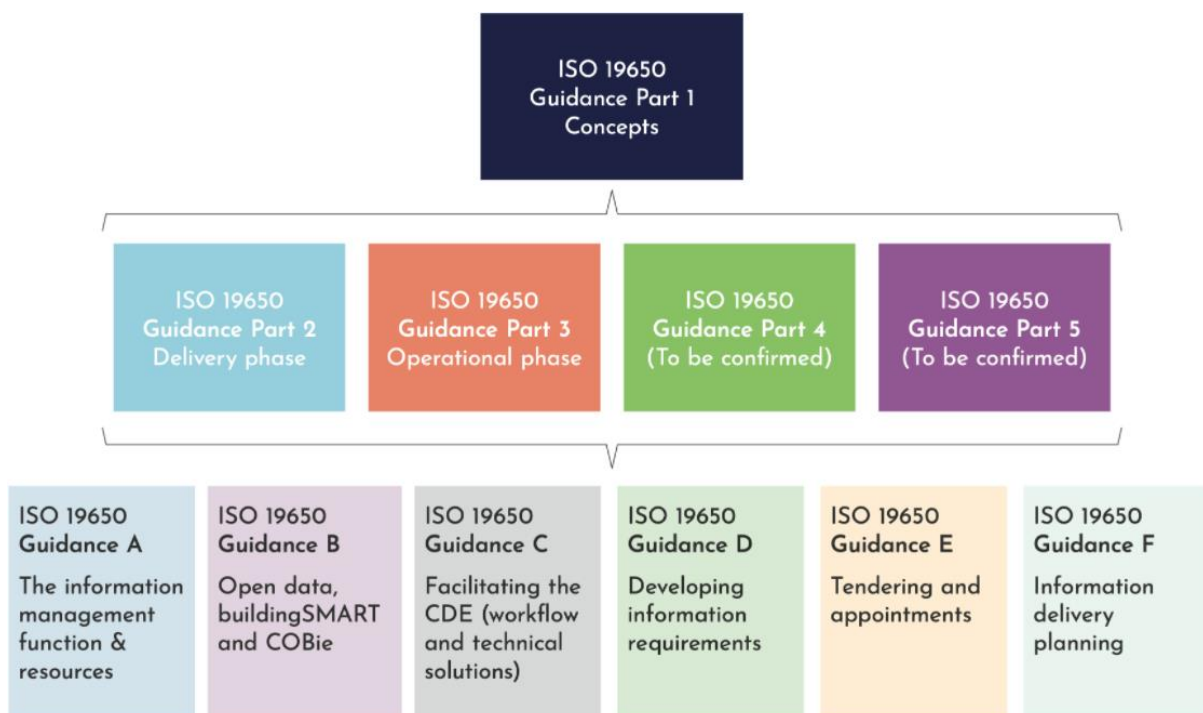
<https://ukbimframework.org/wp-content/uploads/2020/05/ISO19650-2Edition4.pdf> Date accessed: 13.03.21



Source: <https://www.ukbimframework.org/standards-guidance/> Date accessed 13.03.21

This is the crux of BIM Level 2; an integrated process –comparable to a virtual (albeit, very large) lever arch file in an office with every complex detail organised and filed away. The difference is that it's all digital, accessible and controlled so things can't go missing and you don't need to photocopy something and put it back – it's just there at the click of a button.

The ISO standards are organised to allow people to collaborate and feed into the Common Data Environment (CDE) this is basically a holding environment to ensure that everything goes to the same place (The One Truth). Data drops are controlled and audited to ensure all the information is clean and coordinated.



Source: <https://www.ukbimframework.org/standards-guidance/> Date accessed 13.03.21

All of the information shared within the CDE will be coordinated by the use of an appropriate naming convention. These are used to provide consistency and to link all the associated documentation and drawings. All parties must use this code.

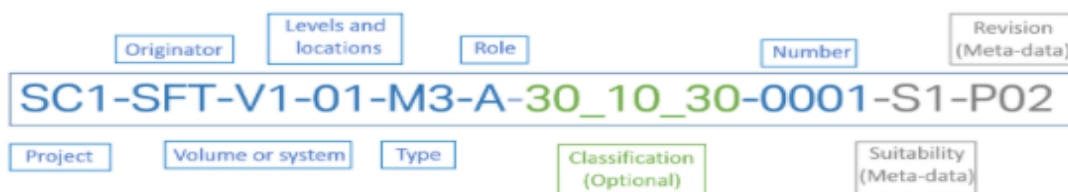
This diagram will provide an explanation for clarification:

The naming convention for files is broken down into the following fields:

Field	Obligation	Description
Project	Required	Code for project
Originator	Required	Code for organisation creating information.
Volume or system	Required	Code for system reference.
Levels and location	Required	Code to locate info (Floor 1 etc)
Type	Required	Code for type of file Cost Plan, method statement etc)
Role	Required	Code for role of organisation (A - Architect etc)
Classification	Optional	Code to reference asset (Uniclass or equivalent)
Number	Required	Sequential file number
Suitability	Meta-data	Code for status of data (WIP, Shared, published etc)
Revision	Meta- data	Code for revision of data.

Table 1: Summary of Naming Convention

For example:-



<https://bimportal.scottishfuturetrust.org.uk/level1/stage/8/task/47#:~:text=BIM%20in%20accordance%20with%20BS,File%20Naming%20Convention&text=Containers%20refer%20to%20a%20named,or%20application%20data%20storage%20hierarchy>. Date accessed: 13.03.21

The naming convention for the purpose of this project will be as follows:

YsgolB/5010/XX/ZZ/IE/A/2021/YsBEP/S1/A

This reference will be consistent throughout all the documentation and drawings and it's unique to this project. If you have any queries then this is the reference that should be used for information access and collaboration.

To initiate this project we will provide a BIM Execution Plan (BEP). This plan will be based on the information provided by Swansea Council as the Client. We will interpret the information provided to us in the Employer's Information Requirements (EIR) to facilitate a comprehensive project plan.

The BEP will be utilised and referred to throughout the scheme and focuses on the following:

- Delivery (How information is managed, planned and documented)
- Clear explanations of Standard Methods and Procedures (used to deliver the information at variable points)
- Roles and responsibilities (Approval processes)
- Confirmation of what existing information will be used
- Exchange of information (a guide to the key project milestones and where these fit in as part of the wider programme)
- Collaborative working processes – indicating clear responsibilities (who is doing what)
- Details of working procedure (including how BIM volumes are managed and maintained, naming conventions)
- Clear definitions of abbreviations, annotations and symbols used in all documentation and drawings - for clarity of reading, understanding and interpretation
- Confirmation of Software use and clarification of data formats and how they will be shared.
- Handover

Source: <https://www.thenbs.com/knowledge/what-is-a-bim-execution-plan-bep> Date accessed: 14.03.21

The BEP is a large document required as part of the contract. For the purpose of this introduction we will append to this letter a document containing the following sections:

- Project Information
- Management
- Planning and Documentation
- Standards, Methods, and Procedures
- IT Solutions

This will hopefully give you a brief understanding of how we will manage the process to enable a smooth running project.

Yours Faithfully

Sian Walkey



Post Contract-Award

Information Modelling (BIM) Execution Plan (BEP)

Project Name: Ysgol Bae Abertawe

Project Address: Adjacent to Observatory site

Project number: YsgolB/5010/XX/ZZ/IE/A/2021/YsBEP/S1/A

Date: 14.03.21

Document Control Sheet

Revision	Status	Page Nos.	Amendment	Date	By
1	Published	All	N/A	14.03.21	SW

Authored by:

Sian Walkey

WalkeyTalks' Consultants

The Post Contract-Award Building Information Modelling Execution Plan (BEP)

Preface

The BEP shall list the agreed targets for responsibility, timely delivery, exchange, reuse and final handover to CCS. It will also list all of agreed elements as outlined in the Employers Information Requirements, the Brief, the relevant standards and the contract documents.

This BEP is structured in accordance with: BS EN ISO 19650-1

Project Delivery Manager

This document is owned and maintained by the current Project Delivery Manager listed below:

Project Delivery Manager – Name	Company Responsible
Sian Walkey	WalkeyTalks' Consultants

Project Team Representatives and Role

Company Name	Representative and Authorised Responsible Agent	Role
Walkeytalks' Consultants	Sian Walkey	Lead Consultant

Document Authority

This project plan has been agreed by the representatives of the project team as listed above. **This is the agreed BIM Execution Plan.**

Contents

1 Project Information

- 1.1 Planning of work and data segregation
- 1.2 Co-ordination and clash detection
- 1.3 Collaboration process
- 1.4 Health and Safety/ CDM Management
- 1.5 Compliance plan

2 Management

- 2.1 Roles, Responsibilities and Authorities
- 2.2 Project Milestones
- 2.3 Project Information model delivery strategy
- 2.4 Survey Strategy
- 2.5 Existing legacy data use
- 2.6 Approval of information

3 Planning and Documentation

- 3.1 Project implementation plan
- 3.2 Agreed processes for collaboration and information modelling
- 3.3 Responsibilities across the supply chain

4 Standards, Methods and Procedures

- 4.1 Volume strategy
- 4.2 File Naming convention

5 IT Solutions

- 5.1 Software versions
- 5.2 Exchange formats

1. Project Information

Project Name	Ysgol Bae Abertawe
Project Address	Adjacent to the Observatory SA1
Project Number	YsgolB/5010/XX/ZZ/IE/A/2021/YsBEP/S1/A
Contract form	JCT
Project Design start date	14.03.21
Project Completion and Handover Date	14.03.22
Project Description (EIR)	State of the art school. 1 form entry infant school for 90 pupils
Project Brief and CDM Requirements	Deliver a 'state of the art' infant school in Swansea. The project is a joint funded venture with the Welsh Government, under the 21st Century schools programme and is required to meet the standards of BIM level 2.
Project deliverables as defined in the EIR and CoBie project templates	Deliver an Infant school in accordance with the 21 st Century Schools Programme.

1.1 Planning of work and data segregation

Planning and documentation in accordance with Standard Methods and procedures

1.2 Co-ordination and clash detection

This section contains our proposals for managing the coordination process. Set out in the ISO standards

1.3 Collaboration process

Detailed documentation to show the information drop points and audit requirements

1.4 Health and Safety/ CDM Management

Project coordinated in accordance with Construction (Design and Management) Regulations 2015. All documentation provided.

1.5 Compliance plan

Our proposals for managing the co-ordination process

2 Management

2.1 Roles, Responsibilities and Authorities

Role Company	Name	Email and Phone Number
Lead Designer	S Walkey	0552478@student.uwtsd.ac.uk
Project Delivery Manager	G.Traylor	Gav@topman.uwtsd.ac.uk
Construction Manager	Joe Bloggs	J.Bloggs@tiptopconstrcution.uk
Task Team Manager	Henry Tudor	H.Tudor@Madman.co.uk
Task Team Information Manager	Whoppi Goldberg	Whoopwhoop@awesome.com
Task Team Interface Manager	Alun Wyn Jones	Altheman@ruggas.co.uk
Task Team BIM Authors Company Company Company	All of the above	

The standard authorities of the different roles related to production and management of information are given below:

Role	Authority
Project Information Manager	Enforce this Project BIM Standard and ensure delivery of the Information requirement in the EIR
Lead Designer	Enforce spatial coordination
Task Team Manager	Enforce documentation standards
Interface Manager	Negotiate space allocation
Task Team Information Manager	Reject non-compliant models, drawings and documents
CAD Coordinator	Enforce CAD related Project BIM Standards

2.2 Project Milestones

Start Date	Design Completion	Detail Design completion and fabrication	Construction	As constructed models, documents and data	Handover
14.03.21	14.03.22	14.06.21	14.07.21	14.08.21	14.03.22

Only the major milestones are listed. A more detailed and co-ordinated plan must be developed and agreed with the stakeholders

2.3 Project Information model delivery strategy

The major goals and objectives for the BIM implementation must be considered and stated as a project strategy document.

Brief	Concept	Definition	Design	Build & Commission	Handover & Closeout	In use
14.03.21	14.01.21	New School	Walkeytalks' Consultants	Walkeytalks' Consultants	14.03.22	Yes

2.4 Survey Strategy

Survey method	Delivery format	Survey Origin	Details. notes
Land survey	CAD	Adjacent to Observatory site	

2.5 Existing legacy data use

Detailed in the EIR.

2.6 Approval of information

To ensure that model, drawing files and spread sheet extraction are adequately checked, some form of agreed approvals process needs to be in place to enable the design teams and the contractor (or client) to approve and sign-off the development of the design information for a project and to assign responsible team members

Name	Role or Title	Models	Drawings	Peer Review	Lead Designer/Contractor	Client Review Team
Jack the Lad	Information Manager	1&2	1&2	Yes	Jack the Lad: Walkeytalks' Consultants	Yes

3 Planning and Documentation**3.1 Project implementation plan**

Incorporating supply chain, building information assessment forms, IT assessment forms, supplier resource assessment forms.

Supplier	Discipline	Resource numbers	Levels of Competence	Years of Experience	Names of Individuals
Vision 2000	Windows	1,5,7,9	High	20	Victor Meldrew
South Wales Cladding	External Cladding	6, 12, 18, 24	High	25	Bob Ross

3.2 Agreed processes for collaboration and information modelling

Company	Solution	Network	Database	File based	Comments
Vision 2000	Info Manager	Outlook	CoBie		

3.3 Responsibilities across the supply chain

Model Authorising	Example software	Native format	Exchange format Brief	Concept	Definition	Design	Building and Commission	Handover	Operation

4 Standards, Methods and Procedures**4.1 Volume strategy**

Volume for the definitions and abbreviations of volumes to be used on the project

4.2 File Naming convention:

[YsgolB/5010/XX/ZZ/IE/A/2021/YsBEP/S1/A](#)

5 IT Solutions

5.1 Software versions

Company	Database	Software	Version	Format	Comments
Vision 2000	CoBie	CoBie	2020	TBC	

5.2 Exchange formats

	DWG	DGN	DWF	PDF	IFC	Other
Models	Y			Y	Y	
Final drawing format	Y	Y		Y	Y	
Schedules or spreadsheets	Y	Y		Y	Y	

Source: http://www.cpic.org.uk/wp-content/uploads/2013/06/cpix_post_contract_bim_execution_plan_bep_r1.0.pdf Date accessed: 14.03.21

References

- BRE Training: <https://www.bre.ac/course/bim-online-training-bundle-level-2/> Date accessed: 13.03.21
- Competencies: <https://bimexcellence.org/files/201in-Competency-Table.pdf> Date accessed 13.03.21
- BSI Standards: [*Source: BSI Standards Publication. Date Accessed: 13.03.21. UWTSD Library database resource*](#)
- <https://ukbimframework.org/wp-content/uploads/2020/05/ISO19650-2Edition4.pdf> Date accessed 13.03.21
- <https://www.ukbimframework.org/standards-guidance/> Date accessed 13.03.21
- <https://bimportal.scottishfuturetrust.org.uk/level1/stage/8/task/47#:~:text=BIM%20in%20accordance%20with%20BS,File%20Naming%20Convention&text=Containers%20refer%20to%20a%20named,or%20application%20data%20storage%20hierarchy>. Date accessed: 13.03.21
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- http://www.cpic.org.uk/wp-content/uploads/2013/06/cpix_post_contract_bim_execution_plan_bep_r1.0.pdf Date accessed: 14.03.21